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CERAMIC ABSTRACTS

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Varactors. See *Diodes.*
Varistors. See *Resistors, electrical.*
Viscosity. See also *Density; Friction, internal; Solutions.*

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Wire, welding. See *Welding.*

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Ytterbia. See *Ytterbium, oxide.*
Yttria. See *Yttrium, oxide.*

Zircon. See also *Refractories; Zirconium, silicate.*
Zirconia. See *Zirconium, dioxide.*
Zirconium, silicate. See also *Zircon.*

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1979

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Journal Papers

The following papers are tentatively scheduled for publication in the January–February 1980 issue of the *Journal of the American Ceramic Society*, which will be published the latter part of January.

Strenghtening of Glasses by Partial Leaching. Martin G. Drexhage and Prabhat K. Gupta, The Catholic University of America, Washington, D.C.

Acoustic Surface Wave Measurements of Surface Cracks in Ceramics. B. T. Khuri-Yakub and G. S. Kino, Stanford University, Stanford, Calif.; A. G. Evans, University of California, Berkeley, Calif.

Consolidation of Particulate Layers in the Fabrication of Optical Fiber Preforms. K. L. Walker, J. W. Harvey, F. T. Geyling, and S. R. Nagel, Bell Labs, Murray Hill, N.J.

Degradation of $BaTiO_3$ Ceramic Under High ac Electric Field. W. A. Schulze, L. E. Cross, and W. R. Buessem, The Pennsylvania State University, University Park, Pa.

Plastic Deformation of Fine-Grained Alumina (Al_2O_3): I, Interface-Controlled Diffusional Creep. R. M. Cannon, Massachusetts Institute of Technology, Cambridge, Mass.; W. H. Rhodes, GTE Labs, Waltham, Mass.; A. H. Heuer, Case Western Reserve University, Cleveland, Ohio

Plastic Deformation of Fine-Grained Alumina (Al_2O_3): II, Basal Slip and Nonaccommodated Grain-Boundary Sliding. A. H. Heuer, Case Western Reserve University, Cleveland, Ohio; N. J. Tighe, National Bureau of Standards, Washington, D.C.; R. M. Cannon, Massachusetts Institute of Technology, Cambridge, Mass.

Studies on the Acid Resistance of E Glass. B. E. Ramachandran, B. C. Pai, and N. Balasubramanian, National Aeronautical Lab, Bangalore, India

Solid Solutions in the System Taeniolite-Sodium Taeniolite and Their Properties. Renichi Kondo, Masaki Daimon, Kiyoshi Asaga, and Tadahiro Nishikawa, Tokyo Institute of Technology, Japan; Kunio Kitajima and Nobutoshi Daimon, Shinshu University, Wakasato, Japan

Iron Diffusion in Iron-Aluminate Spinels. J. W. Halloran and H. K. Bowen, Massachusetts Institute of Technology, Cambridge, Mass.

Ion-Probe Measurement of Oxygen Self-Diffusion in Single-Crystal Al_2O_3. David J. Reed and B. J. Wuensch, Massachusetts Institute of Technology, Cambridge, Mass.

Internal Friction and Sodium Transport in Beta Alumina. J. H. Simmons, The Catholic University of America, Washington, D.C.; A. D. Franklin, K. F. Young, and M. Linzer, National Bureau of Standards, Washington, D.C.

Electrical Conductivity of Pure and Fe-Doped Magnesium-Aluminum Spinel. R. A. Weeks and E. Sonder, Oak Ridge National Lab, Oak Ridge, Tenn.

Thermal Stress Analysis of Partially Absorbing Brittle Ceramics Subjected to Symmetric Radiation Heating. D. P. H. Hasselman, J. R. Thomas, Jr., M. P. Kamat, and K. Satyamurthy, Virginia Polytechnic Institute and State University, Blacksburg, Va.

Stress Relaxation in PZT. K. A. Esaklul and W. W. Gerberich, University of Minnesota, Minneapolis, Minn.; B. G. Koepke, Honeywell Corporate Material Sciences Center, Bloomington, Minn.

Subsolidus Equilibria in the System Li_2O-Al_2O_3-Cr_2O_3. G. Izquierdo and A. R. West, University of Aberdeen, Scotland

Phase Equilibria in the System AlN-Si_3N_4-Be_3N_2. G. Schneider, L. J. Gauckler, and G. Petzow, Max-Planck-Institut fuer Metallforschung, Stuttgart, Federal Republic of Germany

Evaporation of Zinc Oxide from Spinel Solid Solutions in Vacuum. Kunihito Koumoto and Hiroaki Yanagida, University of Tokyo, Japan

Decomposition of Mullite by Silica Volatilization. Shin-ichi Iwai, Takashi Watanabe, Ichiro Minato, Kiyoshi Okada, and Hideki Morikawa, Tokyo Institute of Technology, Yokohama, Japan

The System Si_3N_4-SiO_2-Y_2O_3. L. J. Gauckler, H. Hohnke, and T. Y. Tien, The University of Michigan, Ann Arbor, Mich.

Compressive Surface Stresses Developed in Ceramics by an Oxidation-Induced Phase Change. F. F. Lange, Rockwell International Science Center, Thousand Oaks, Calif.

Kinetics Parameters and Thermodynamic Properties of Calcium Tungstate Crystal Growth from Lithium Chloride and Sodium Tungstate Melts. B. N. Roy, University of Science and Technology, Kumasi, Ghana, West Africa

High Temperature Fatigue Behavior of Polycrystalline Alumina. K. Jakus, T. Service, and J. E. Ritter, Jr., University of Massachusetts, Amherst, Mass.

Energy Levels of Donor and Acceptor Dopants and Electron and Hole Mobilities in α-Al_2O_3. S. K. Tiku and F. A. Kröger, University of Southern California, Los Angeles, Calif.

Structure and Properties of Portland Cement Clinker Doped with Zinc Oxide. Ivan Odler and Otto Schmidt, Technical University Clausthal, Clausthal-Zellerfeld, Federal Republic of Germany

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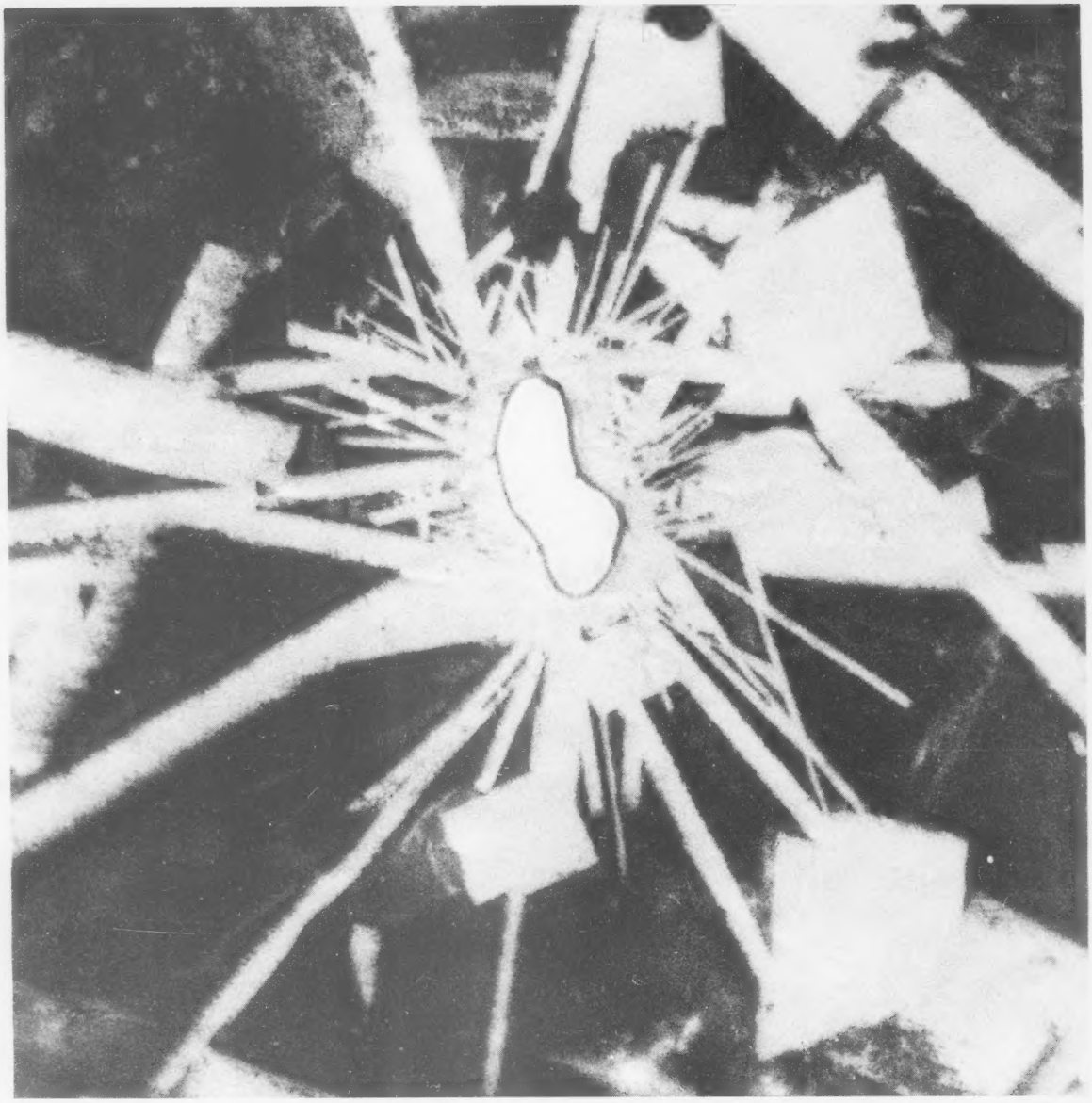
Melilite in Slag from Calcinator



10 μm

While burning lime in suspension with coalfiring, local overheating resulted in reaction between lime and coal ash forming slag. The limestone in this case was a kutnohorite (7% MgO) from which an åkermanite ($Ca_2MgSi_2O_7$) formed with approximately 30% gehlenite ($Ca_2Al_2SiO_7$) in solid solution. A crystal of MgO has "seeded" the growth of the melilite. (× 40)

Erling Fundal
F. L. Smidth and Co. a/s Laboratories
Copenhagen, Denmark

From the 81st Annual Meeting Ceramographic Exhibit